

REMARKS

Claims 1 and 2 are now pending in the application. Applicant thanks the Examiner for the courtesies extended in the telephonic interview of January 12, 2006. In the telephonic interview, possible amendments to the claims, as well as differences between the present invention and cited prior art were discussed and detailed. Specifically, an amendment to the claims to recite a Mg content in the range of 0.1 to 0.37 wt% was discussed. Although no agreement was reached, the Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 1 - 2 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 09-176769 (JP '769). This rejection is respectfully traversed.

Claims 1 and 2 have been amended to recite that the Mg content lies in a range of 0.1 – 0.37 wt%. This subject matter is described throughout the specification and drawings as originally filed. No new matter has been added. Specifically, a Mg content of 0.37 wt% is disclosed in Figure 1 of the present application at alloy No. 4. Claims 1 and 2 have also been amended to recite that a critical upsetting ratio is in an amount greater than 43%. This subject matter is supported at, for example, Figure 3 of the present invention at alloy No. 6. No new matter has been added.

JP '769 fails to teach or suggest such an alloy or extruded product. That is, JP '769 is directed toward an aluminum extruded property which is excellent in wear resistance, extrudability, and machinability. Notwithstanding, the invention of JP '769

does not take caulking properties into account. In contrast, the present invention is directed toward developing an aluminum extruded property that is applicable to compressive parts. An aluminum extruded property that is applicable to compressed parts requires excellent caulking properties.

In this pursuit, at the time the present invention was developed, it was considered that elongation properties can be used to evaluate caulking properties. Nevertheless, the inventors of the present invention realized that it was difficult to evaluate caulking properties with only elongation. For example, an elongation percentage of alloy J (which is evaluated as a comparative example in JP '769) is as high as 11% while caulking properties are poor. Therefore, the present inventors evaluated caulking properties with a critical upsetting ratio. A regression analysis was performed using a critical upsetting ratio as an evaluation characteristic, and the results showed that the caulking properties were greatly affected by the components of Mg. With JP '769, it was impossible to anticipate the above results. Please see Figure 4 of the present application as an example.

Moreover, the effects of Mg on the critical upsetting ratio are described in paragraphs [0041] to [0043] of the present invention:

[0041] As is clear from these results, it was found that Mg and Mn have a considerable influence on the critical upsetting ratio. Therefore, the amount of these elements was examined while taking tensile strength and surface hardness into consideration.

[0042] A material to which Mg was added in an amount of 0.6% or more had a critical upsetting ratio, at which microcracks occur, of 40%. A material to which Mg was added in an amount of 0.5% had a critical upsetting ratio of 42%. A material to which Mg was added in an amount of 0.2% had a critical upsetting ratio of 50% or more.

[0043] The amount of Mg added has a negative correlation with the critical upsetting ratio. Therefore, in order to secure strength and caulking

properties necessary for the ABS body material, the amount of Mg to be added is 0.1 to 0.45%, and preferably 0.2 to 0.45%.”

By this disclosure, it is clear that the inventors of the present invention realized that the amount of Mg has a negative correlation to the critical upsetting ratio. Accordingly, by having a Mg content in the claimed range of 0.1 to 0.37 wt%, the critical upsetting ratio, and the effect on caulking properties, is maximized. In contrast, JP ‘769 teaches that the Mg content should be in a range of 0.4 to 1.0 wt%. Please see paragraph [0005] of JP ‘769. This range is greater than the claimed range. As such, the alloy of JP ‘769 cannot achieve the claimed critical upsetting ratio or the caulking properties of the claimed invention. Accordingly, Applicant respectfully asserts that the claimed invention is neither anticipated nor obvious in view of JP ‘769.

Furthermore, please note that a decrease of material strength caused by reducing the amount of Mg to less than 0.37 wt% is to some extent covered by adding other components such as the components of Copper (Cu). As described, however, the caulking properties are greatly influenced by the components of Mg, and the present invention may obtain the characteristics which are absent in JP ‘769. Because these characteristics, as claimed, are not present by JP ‘769, nor are these characteristics taught or suggested, Applicant respectfully asserts that claims 1 and 2 would not have been obvious to one skilled in the art in view of the teachings of JP ‘769.

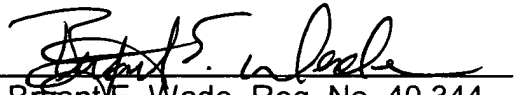
Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: January 26, 2006

By: 
Bryant E. Wade, Reg. No. 40,344

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

BEW/JAH